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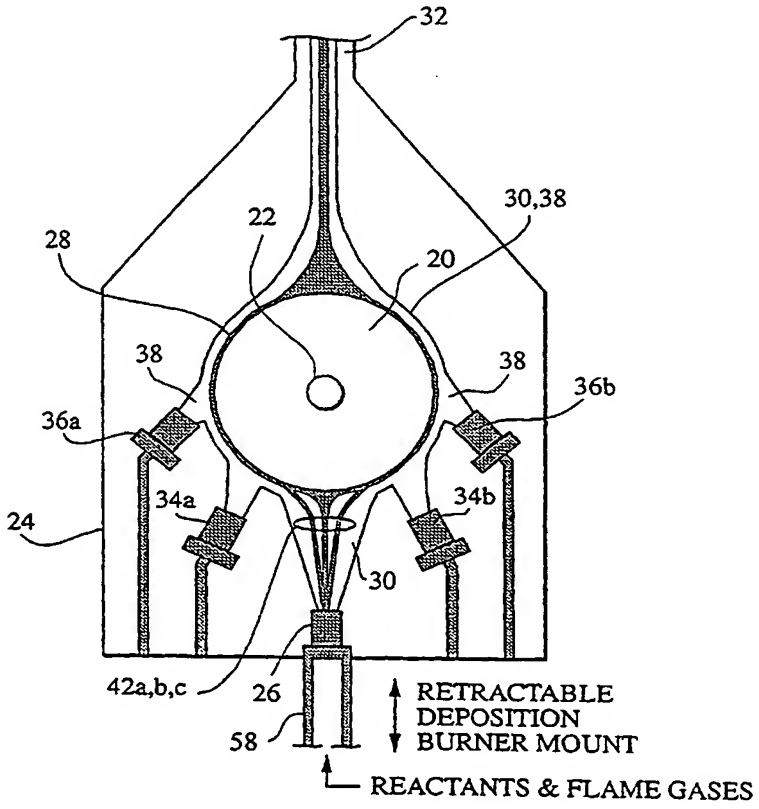
(54) Title: APPARATUS FOR MAKING A GLASS PREFORM BY FLAME HYDROLYSIS



(57) Abstract: An apparatus is described, for making a glass preform by flame hydrolysis. The apparatus includes a main deposition burner configured to direct two or more streams of soot-forming reactants and a stream of flame gases into a deposition chamber, in a direction toward a rotating support mandrel, so as to form by flame hydrolysis a glass preform on the mandrel. One or more pairs of auxiliary burners may also be included, for introducing further streams of flame gases, but no streams of soot-forming reactants, toward the glass preform, from opposite lateral sides of the main deposition burner; to provide additional heat when the preform has reached a predetermined size, thereby improving efficiency. The main deposition burner is configured to direct the two or more of the streams of soot-forming reactants to impinge quasi-tangentially toward the mandrel and, further, to direct the stream of flame gases obliquely inwardly toward the two or more streams of soot-forming reactants, to narrow the flame's width along one or both of two orthogonal axes.

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